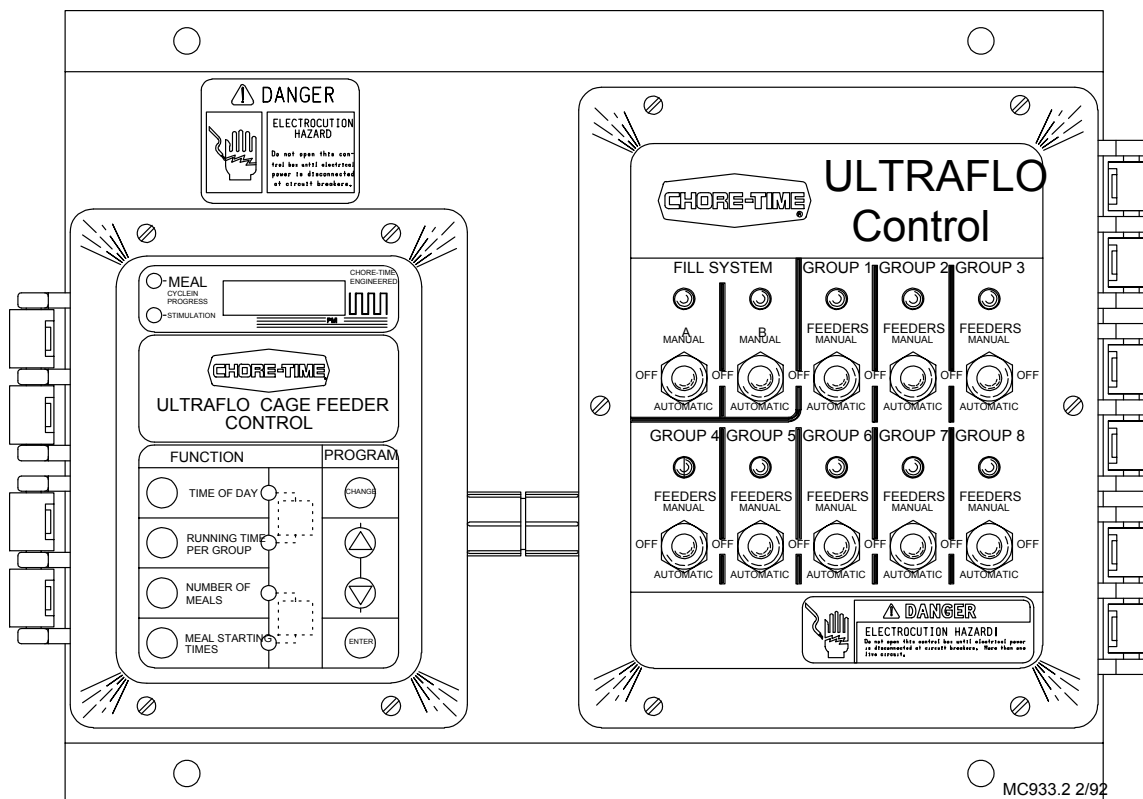


**29701**  
**Upgrade Kit**  
**for the**  
**24500-0 ULTRAFLO® Feeding Control Panel**



# Installation Procedure

## Disconnect Power at the Circuit Breaker.

1. Make a list of wire colors and terminals that the wires are connected to in the existing 24500 control.
2. Disconnect both ends of the black and white wires that are connected to terminals 2 and 3 of the old control and discard.
3. Disconnect the other wires from the terminal strip, plus the green (ground) wire from the Base Plate. Double check the list of wire colors and terminals from step 1 as you do this.
4. Remove the lid and base plate from the existing control.
5. Remove the lid and base plate from the upgrade kit and install it in the old control in place of the old lid and base plate.
6. Connect the wires, as shown in Figure 2. Don't forget to connect the green (ground) wire to the Base Plate. Close the lid and turn power on at the circuit breaker.

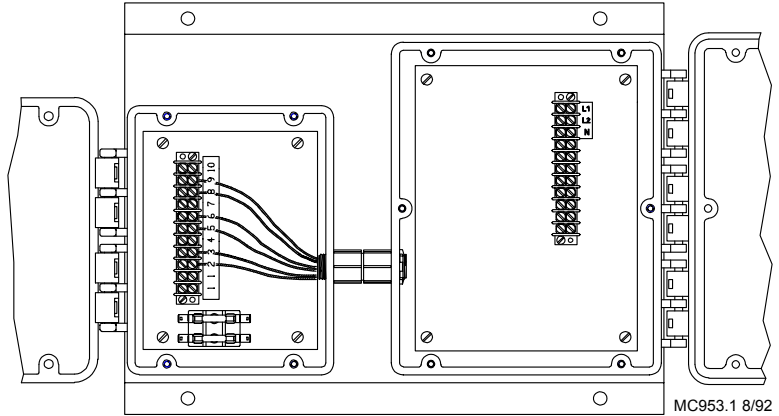


Figure 1. Existing 24500 Control Panel

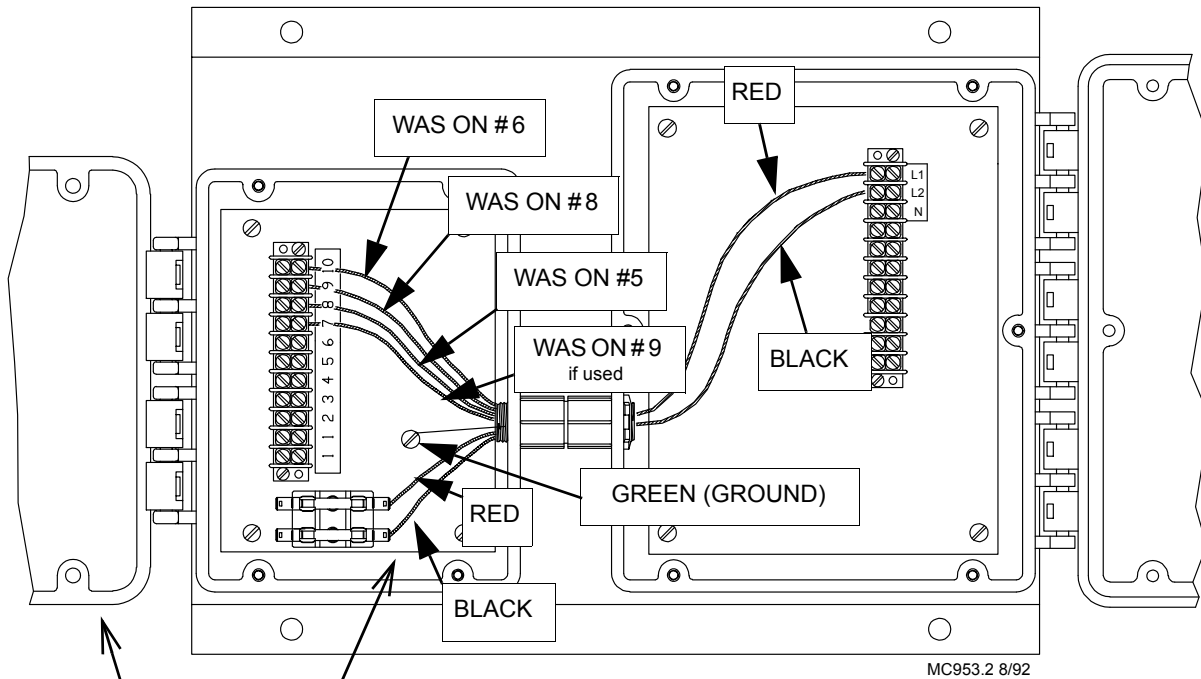


Figure 2. New Base Plate and Lid.

## Operational Procedure

### • Programming the Active Number of Groups •

At initial installation the NUMBER OF ACTIVE GROUPS must be set to the number of groups that exist in the house. The control is set at the factory to have the same NUMBER OF ACTIVE GROUPS as the control has OUTPUTS.

#### To Check How Many ACTIVE GROUPS Are Programmed:

1. Press and hold the ENTER keypad for about ten seconds until a long beep sounds. Release the keypad, which will turn off the beep.
2. The display will show the NUMBER OF ACTIVE GROUPS that are programmed.

#### To Change The NUMBER OF ACTIVE GROUPS:

1. DO NOT PRESS THE CHANGE KEYPAD DURING THIS ROUTINE!
2. Press either the UP or DOWN ARROW keypad and hold it for about ten seconds until a long beep sounds. Release the ARROW keypad, which will turn off the beep.
3. The display will show the new NUMBER OF GROUPS, increased or decreased by one.
4. Do not press ENTER. This is the only programming routine that does not require pressing ENTER to make a change.

### • Programming the Actual Time of Day •

Press the upper left keypad, labeled TIME OF DAY. Release it as soon as you hear the beep. The display will show the present time. The colon blinks each second, and the AM/PM indicator lights for the PM times. If you do this while a meal or stimulation is in progress, the display will return to the ROTATING AUGER SYMBOL in about 35 seconds. A feeding or stimulation in progress is not affected by checking or changing the TIME OF DAY.

#### To set the TIME OF DAY:

1. Display the TIME OF DAY as explained above.
2. Press the CHANGE keypad. One of the digits will begin flashing.
3. Set the digit either up or down as desired with the UP and DOWN ARROWS.
4. Press the CHANGE keypad again to flash the next digit and change it as in step 3.
5. The only complication to this procedure is the left-most digit. When this digit is flashing, you will toggle the AM/PM light on and off when you press either the UP or DOWN ARROWS.
6. When all the digits and AM/PM light are correct press the ENTER keypad. Do not forget this step. Nothing is actually changed until you press ENTER.
7. Midnight is 12:00 AM, noon is 12:00 PM

## Operational Procedure

### • Programming the Length of Meals and Stimulations •

There are two different RUN TIMES to be programmed: MEAL and STIMULATION. To the left of the display are two lights labeled MEAL and STIMULATION. Pressing the RUN TIME keypad, these lights alternately turn on in four possible combinations. The meal RUN TIME is in the display when the light labeled MEAL is on. The stimulation RUN TIME is in the display when the light labeled STIMULATION is on. The four digits are minutes and seconds. When both lights are either on or off, programming a time will affect nothing.

#### To change the RUN TIMES:

1. Press the RUN TIME keypad repeatedly until the RUN TIME you wish to change is in the display.
2. Like setting the TIME OF DAY, pressing the CHANGE keypad will make one of the digits flash. Change the digit with the UP and DOWN ARROWS.
3. Press the CHANGE keypad again to flash the next digit.
4. When you have all four digits where you want, press ENTER. Do not forget this step. Nothing is actually changed until you press ENTER.

### • Programming the Number of Meals & Stimulations •

Pressing the NUMBER OF MEALS keypad causes the display to show the total NUMBER OF MEALS that the control allows to be programmed. Similarly, pressing the NUMBER OF STIMULATIONS keypad causes the display to show the total NUMBER OF STIMULATIONS that the control allows to be programmed. The maximum total of NUMBER OF MEALS plus NUMBER OF STIMULATIONS is limited by the control to be 48. For instance, when you are programming the NUMBER OF STIMULATIONS, and the NUMBER OF MEALS is already set to 20, you will find that the control will not accept more than 28. You may set the sum of NUMBER OF MEALS and NUMBER OF STIMULATIONS to be less than 48. Also, you may program fewer meal and stimulation START TIMES than NUMBER OF MEALS and NUMBER OF STIMULATIONS that you have chosen.

#### To Change the NUMBER OF MEALS or NUMBER OF STIMULATIONS:

1. Press the NUMBER OF MEALS or NUMBER OF STIMULATION keypad.
2. Press the CHANGE keypad which causes one of the digits in the display to flash. Change the digit with the UP and DOWN ARROWS.
3. Press the CHANGE keypad to cause the other digit to flash. Change that digit with the UP and DOWN ARROWS.
4. Press ENTER when you have the number you want.

## Operational Procedure

### • Programming the Meal & Stimulation Start Times •

#### **To Display the Meal or Stimulation START TIMES:**

1. Press the meal or stimulation START TIME keypad.
2. The display alternately shows a START TIME NUMBER and the programmed START TIME that goes with that NUMBER.
3. To check what is programmed for other meals or stimulations, simply press the UP or DOWN ARROW. The next programmed meal or stimulation will show on the display in the same manner as in step 2.
4. If a meal or stimulation NUMBER is not programmed, dashes will show in the display instead of the normal HOURS: MINUTES: AM/PM format.

#### **To Program or Change a Meal or Stimulation START TIME:**

1. Bring up on the display, the meal or stimulation START TIME that you want to program.
2. Press the change keypad. This stops the meal or stimulation NUMBER from flashing and causes one of the digits in the HOURS: MINUTES: AM/PM format to flash. Midnight is 12:00 AM, noon is 12:00 PM.
3. Use the UP and DOWN ARROW keypads to adjust individual digits as you did when you set the TIME OF DAY. Pressing the UP or DOWN ARROW when the leftmost digit flashes, will toggle the AM/PM light on and off.
4. Press ENTER when you have the START TIME exactly as you wish.

#### **To Delete a Programmed Meal or Stimulation START TIME:**

1. Bring up on the display the meal or stimulation START TIME that you want to delete.
2. Program that START TIME to be the same as any one of the other programmed START TIMES. In that the control will not accept two meals at the same time, one will be eliminated.
3. The control will automatically reduce, by one, the assigned NUMBERS of all the meals or stimulations that had a higher assigned NUMBER than the deleted meal or stimulations' assigned NUMBER.
4. A POWER-ON RESET will delete all programmed START TIMES. See TROUBLESHOOTING HELPS at the end of this manual.

The control automatically keeps the feedings in order starting at 12:00 midnight. This means that if you program MEAL #3 to be earlier than MEAL #2, the control assigns #2 to the meal you think you are calling #3. What was meal #2, will now be #3.

## Operational Procedure

### • Programming the Special Meal & Stimulation Cycles •

Two very useful features exist in this control which are called SPECIAL MEAL and SPECIAL STIMULATION.

#### **Initiating a Special Meal or Special Stimulation When Neither a Meal nor Stimulation is in Progress:**

1. Press and hold the meal START TIME or stimulation START TIME keypad.
2. After ten seconds there will be a long beep. Release the keypad. The SPECIAL MEAL or SPECIAL STIMULATION will immediately begin plus the beep will stop. These specials are just like a regular feeding except that they are initiated by the above long keypad presses.

#### **Stopping a Meal or Stimulation that is in Progress:**

1. If you press and hold the meal START TIME keypad when a meal is in progress, the meal will stop immediately.

2. If you press and hold the stimulation START TIME keypad when a stimulation is in progress, the stimulation will stop immediately.
3. When a meal or stimulation is in progress and you press and hold the opposite START TIME, that meal or stimulation will immediately stop and the opposite (SPECIAL MEAL or SPECIAL STIMULATION) will begin.

When the SPECIAL MEAL or SPECIAL STIMULATION function stops a meal or stimulation in progress, that specific programmed meal or stimulation in progress is all that is affected. The programmed values for START TIMES are not altered. The next day that programmed meal or stimulation will occur again.

## POWER OUTAGES

A small battery similar to a watch battery is mounted on the circuit board within the control. This battery is not rechargeable but should last nearly five years. How the control responds to a power outage is dependent on whether the battery is still good.

### If the Battery is Still Good:

1. All programmed values and the TIME OF DAY are not affected regardless of the length of the power outage.
2. If a meal or stimulation is in progress, that feeding will resume where it was when the power outage occurred, and finish that feeding when power comes back on.
3. If power is off during a scheduled meal or stimulation START TIME, that meal or stimulation will not be missed if power comes back on within one minute of that START TIME. Otherwise, all feedings and stimulations that are scheduled during the power outage will be missed.
4. This is a situation where a SPECIAL MEAL (see the MANUAL OPERATION section) might make sense once power returns.

### If the Battery is Dead or Missing:

1. The TIME OF DAY and possibly the display reading is all that is affected.
2. All other programmed values are not affected!
3. If the power outage only lasts several minutes, the only impact will be that the TIME OF DAY will be in error by the length of the power outage. Simply reprogramming the TIME OF DAY is all that you would need to do. Continuing the meal in progress would also still occur.
4. A longer power outage has a more significant impact. When power comes back on, the display will likely be locked into a garbage state. Most often it will show 51:-7 with the colon flashing. This display state can be eliminated by simply pressing on the TIME OF DAY keypad. Continuing the meal in progress will not occur.
5. When this longer power outage occurs, the clock chip will reset itself to 12:00 midnight when power comes back on. When you press the TIME OF DAY keypad to eliminate the garbage state from the display, the amount of time that the display reads past midnight is how long ago that power returned.
6. Once power is back on, all programmed meals and stimulations will occur as programmed, but the inaccuracy of the clock's TIME OF DAY will probably be significant.
7. We do not recommend operating with a dead battery. If a power outage results in the TIME OF DAY being in error in any way, we strongly recommend replacing the battery.

## PRIORITIES FOR CONFLICTS

Scheduled meals take precedence over stimulations. If a stimulation is running when it becomes time for a meal, the meal will start, and the stimulation will stop. The stimulation will not be completed later.

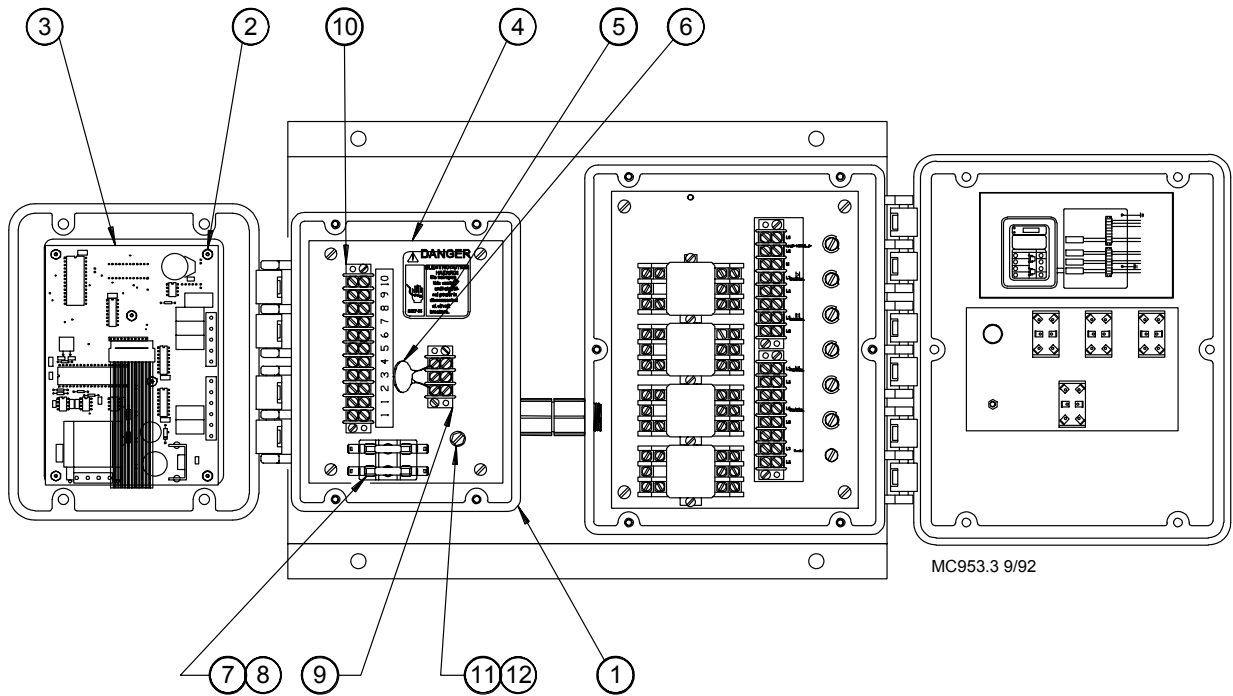
A meal in progress takes precedence over unstarted stimulations and unstarted meals. If a meal in progress terminates within one minute of the scheduled START TIME of another meal or stimulation, that unstarted other meal or stimulation will start immediately at the end of the meal in progress. If the overlap is greater than one minute, the unstarted meal or stimulation will not occur.

## TROUBLESHOOTING HELPS

1. If the display does not make sense, wait at least 35 seconds to see if the display changes to an appropriate setting.
2. If all else fails, perform a POWER-ON RESET. Turn the power off and then back on while you have both the CHANGE and ENTER keypads pressed. This may require two persons, depending on the location of the power on-off switch. A POWER-ON RESET will erase all programmed meal and stimulation START TIMES plus program the following settings:
 

MEAL RUN TIME:	3 SECONDS
STIMULATION RUN TIME:	3 SECONDS
# OF MEALS:	12
# OF STIMULATIONS:	12
# OF ACTIVE GROUPS:	5
3. If the display has any information in it and/or any of the indicator lights are on, and a POWER-ON RESET does not solve the problem, replace the circuit board and return it to Chore-Time for evaluation.
4. If the display and indicator lights are completely dead, be suspicious of a blown fuse or shorted out lightning arrester.

# Parts List



<u>Item</u>	<u>Description</u>	<u>Part No.</u>
1	Box & Cover	25795
2	#4-40 Hex Nut (Nylon)	25884
3	Circuit Board	27837-4
4	Mounting Panel	29406
5	Danger Decal	2527-35
6	MOV	14063-1
7	Fuse Block	7588
8	3 Amp Fuse	20472
9	Terminal Block	26862
10	Terminal Block	7347
11	#10-32 Ground Screw	4968
12	#10 Lock Washer	305

\*The entire Repair Kit may be ordered under Part No. 29701.

Contact your nearby Chore-Time distributor or representative for additional parts and information.

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